\_\_\_\_\_\_

\_\_\_\_\_\_

Sequence Listing was accepted.

If you need help call the Patent Electronic Business Center at (866)
217-9197 (toll free).

Reviewer: Keisha Douglas

Timestamp: [year=2008; month=10; day=27; hr=16; min=19; sec=49; ms=252;]

## Validated By CRFValidator v 1.0.3

Application No: 10514626 Version No: 2.0

Input Set:

Output Set:

**Started:** 2008-09-25 15:54:27.253

**Finished:** 2008-09-25 15:54:29.922

**Elapsed:** 0 hr(s) 0 min(s) 2 sec(s) 669 ms

Total Warnings: 50

Total Errors: 0

No. of SeqIDs Defined: 53

Actual SeqID Count: 53

Error code		Error Description
W	213	Artificial or Unknown found in <213> in SEQ ID (3)
W	213	Artificial or Unknown found in <213> in SEQ ID (4)
W	213	Artificial or Unknown found in <213> in SEQ ID (5)
W	213	Artificial or Unknown found in <213> in SEQ ID (6)
W	213	Artificial or Unknown found in <213> in SEQ ID (7)
W	213	Artificial or Unknown found in <213> in SEQ ID (8)
W	213	Artificial or Unknown found in <213> in SEQ ID (9)
W	213	Artificial or Unknown found in <213> in SEQ ID (10)
W	213	Artificial or Unknown found in <213> in SEQ ID (11)
W	213	Artificial or Unknown found in <213> in SEQ ID (12)
W	213	Artificial or Unknown found in <213> in SEQ ID (13)
W	213	Artificial or Unknown found in <213> in SEQ ID (14)
W	213	Artificial or Unknown found in <213> in SEQ ID (15)
W	213	Artificial or Unknown found in <213> in SEQ ID (16)
W	213	Artificial or Unknown found in <213> in SEQ ID (17)
W	213	Artificial or Unknown found in <213> in SEQ ID (18)
W	213	Artificial or Unknown found in <213> in SEQ ID (19)
W	213	Artificial or Unknown found in <213> in SEQ ID (20)
W	213	Artificial or Unknown found in <213> in SEQ ID (21)
W	402	Undefined organism found in <213> in SEQ ID (22)

## Input Set:

## Output Set:

**Started:** 2008-09-25 15:54:27.253 **Finished:** 2008-09-25 15:54:29.922

**Elapsed:** 0 hr(s) 0 min(s) 2 sec(s) 669 ms

Total Warnings: 50

Total Errors: 0

No. of SeqIDs Defined: 53

Actual SeqID Count: 53

Error code		Error Description
W	402	Undefined organism found in <213> in SEQ ID (23)
W	402	Undefined organism found in <213> in SEQ ID (24)
W	402	Undefined organism found in <213> in SEQ ID (25)
W	402	Undefined organism found in <213> in SEQ ID (26)
W	402	Undefined organism found in <213> in SEQ ID (27)
W	402	Undefined organism found in <213> in SEQ ID (28)
W	402	Undefined organism found in <213> in SEQ ID (29)
W	402	Undefined organism found in <213> in SEQ ID (30)
W	402	Undefined organism found in <213> in SEQ ID (31)
W	402	Undefined organism found in <213> in SEQ ID (32)
W	402	Undefined organism found in <213> in SEQ ID (33)
W	402	Undefined organism found in <213> in SEQ ID (34)
W	402	Undefined organism found in <213> in SEQ ID (35)
W	402	Undefined organism found in <213> in SEQ ID (36)
W	402	Undefined organism found in <213> in SEQ ID (37)
W	402	Undefined organism found in <213> in SEQ ID (38)
W	402	Undefined organism found in <213> in SEQ ID (39)
W	402	Undefined organism found in <213> in SEQ ID (40)
W	402	Undefined organism found in <213> in SEQ ID (41) This error has occured more than 20 times, will not be displayed

## SEQUENCE LISTING

<110>	Aarhus Universitet Pedersen, Finn Skou Bahrami, Shervin Duch, Mogens Ryttergaard											
<120>	A purified retroviral envelope polypeptide											
<130>	P864US00											
<140> <141>	10514626 2005-06-23											
<160>	53											
<170>	Pate	ntIn versio	on 3.4									
<210> <211> <212> <213> <400>	<211> 1920 <212> DNA											
	1 ggtc	cagcgttctc	aaaacccctt	aaagataaga	ttaacccgtg	gggcccccta	60					
atagtco	ctgg	gaatcttaat	gagggcaaga	gtatcagtac	aacatgacag	ccctcatcag	120					
gtcttca	aatg	ttacttggag	agttaccaac	ttaatgacag	gacaaacagc	taatgctacc	180					
tccctcc	ctgg	ggacaatgac	cgatgccttt	cctaaactgt	actttgactt	gtgcgattta	240					
atagggg	gacg	actgggatga	gactggactc	gggtgtcgca	ctcccggggg	aagaaaaagg	300					
gcaagaa	atat	ttgacttcta	tgtttgcccc	ggtcacactg	tgctagcagg	gtgtggaggg	360					
ccgagaç	gagg	gctactgtgg	caaatgggga	tgtgagacca	ctggacaggc	atactggaag	420					
ccatcat	tcat	catgggacct	aatttccctt	aagcgaggaa	acactcctaa	aggccagggc	480					
ccctgtt	tatg	attcctcggt	ggtctccagt	agcgcccagg	gtgccacacc	ggggggtcga	540					
tgcaaco	cccc	tagtcctaga	attcactgac	gcgggtaaaa	gggccagctg	ggacgcctcc	600					
aaagcat	tggg	gactaagact	gtaccgatcc	acaaggaccg	acccggtgac	ccggttctct	660					
ttgacco	cgcc	aggtcctcaa	tatagggccc	cgcgtcccca	ttgggcctaa	tecegtgate	720					
attgaco	cagt	tacccccctc	ccgacccgtg	cagatcatgc	tccccaggcc	tcctcagcct	780					
cctccad	ccag	gcgcagcctc	tacagtccct	gagactgccc	caccttccca	acaacctggg	840					
acgggag	gaca	ggctgctaaa	cctggtaaat	ggagcctacc	aagctctcaa	cctcaccagt	900					

cctgacaaaa cccaagagtg ctggttgtgt ctggtagcgg gaccccccta ctacgaaggg 960

gttgccgtcc taggtactta ttccaaccat acctctgccc cagctaactg ctccgtggcc 1020 tcccaacaca agctgaccct gtccgaagtg accggacagg gactctgcgt aggagcagtt 1080 cccaaaaccc atcaggccct gtgtaatacc acccagaaga cgagcaacgg gtcctactat 1140 1200 ctggctgctc ccgccgggac catttgggct tgcaacaccg ggctcactcc ctgcctatct accactgtgc tcgacctcac caccgattac tgtgtcctgg ttgagctctg gccaaaagtg 1260 acctaccact cccctggtta tgtttatggc cagtttgaag aaaaaaccaa atataaaaga 1320 gaacccgtct cactaactct ggccctacta ttaggaggac tcactatggg cggaattgcc 1380 qccqqaqtqq qaacaqqqac taccqcccta qtqqccactc aqcaqttcca acaactccaq 1440 1500 gctgccatgc aggatgacct taaagaagtt gaaaagtcca tcactaatct agaaagatct ttgacctcct tgtccgaagt agtgttacag aatcgtagag gcctagatct actattccta 1560 aaagagggag gtttgtgtgc tgccttaaaa gaagaatgct gtttctatgc cgaccacaca 1620 1680 ggattggtac gggatagcat ggccaaactt agagaaagat tgagtcagag acaaaaactc tttgaatccc aacaagggtg gtttgaaggg ctgtttaaca agtccccttg gttcaccacc 1740 ctgatatcca ccatcatggg tcccctgata atcctcttgt taattttact ctttgggcct 1800 1860 tgtattctca atcacctggt ccagtttatc aaagacaggg tttcggtagt gcaggccctg gtcctgactc aacaatatca tcaacttaag acaatagaag attgtgaatc acgtgaataa 1920

<210> 2

<211> 639

<212> PRT

<213> Murine leukemia virus

<400> 2

Met Glu Gly Pro Ala Phe Ser Lys Pro Leu Lys Asp Lys Ile Asn Pro 1 5 10 15

Trp Gly Pro Leu Ile Val Leu Gly Ile Leu Met Arg Ala Arg Val Ser 20 25 30

Val Gln His Asp Ser Pro His Gln Val Phe Asn Val Thr Trp Arg Val
35 40 45

Thr Asn Leu Met Thr Gly Gln Thr Ala Asn Ala Thr Ser Leu Leu Gly 50 55 60

Thr Met Thr Asp Ala Phe Pro Lys Leu Tyr Phe Asp Leu Cys Asp Leu

Ile Gly Asp Asp Trp Asp Glu Thr Gly Leu Gly Cys Arg Thr Pro Gly 85 90 95

65

Gly Arg Lys Arg Ala Arg Ile Phe Asp Phe Tyr Val Cys Pro Gly His  $100 \hspace{1cm} 105 \hspace{1cm} 110$ 

Thr Val Leu Ala Gly Cys Gly Gly Pro Arg Glu Gly Tyr Cys Gly Lys 115 120 125

Trp Gly Cys Glu Thr Thr Gly Gln Ala Tyr Trp Lys Pro Ser Ser 130 135 140

Pro Cys Tyr Asp Ser Ser Val Val Ser Ser Ser Ala Gl<br/>n Gly Ala Thr\$165\$ \$170\$ \$175\$

Pro Gly Gly Arg Cys Asn Pro Leu Val Leu Glu Phe Thr Asp Ala Gly
180 185 190

Lys Arg Ala Ser Trp Asp Ala Ser Lys Ala Trp Gly Leu Arg Leu Tyr 195 200 205

Arg Ser Thr Arg Thr Asp Pro Val Thr Arg Phe Ser Leu Thr Arg Gln 210 215 220

Val Leu Asn Ile Gly Pro Arg Val Pro Ile Gly Pro Asn Pro Val Ile 225 230 235 240

Ile Asp Gln Leu Pro Pro Ser Arg Pro Val Gln Ile Met Leu Pro Arg 245 250 255

Pro Pro Gln Pro Pro Pro Gly Ala Ala Ser Thr Val Pro Glu Thr
260 265 270

Ala Pro Pro Ser Gln Gln Pro Gly Thr Gly Asp Arg Leu Leu Asn Leu 275 280 285

Val Asn Gly Ala Tyr Gln Ala Leu Asn Leu Thr Ser Pro Asp Lys Thr 290 295 300

Gln 305	Glu	Суз	Trp	Leu	Cys 310	Leu	Val	Ala	Gly	Pro 315	Pro	Tyr	Tyr	Glu	Gly 320
Val	Ala	Val	Leu	Gly 325	Thr	Tyr	Ser	Asn	His 330	Thr	Ser	Ala	Pro	Ala 335	Asn
Суз	Ser	Val	Ala 340	Ser	Gln	His	Lys	Leu 345	Thr	Leu	Ser	Glu	Val 350	Thr	Gly
Gln	Gly	Leu 355	Суз	Val	Gly	Ala	Val 360	Pro	Lys	Thr	His	Gln 365	Ala	Leu	Cys
Asn	Thr 370	Thr	Gln	Lys	Thr	Ser 375	Asn	Gly	Ser	Tyr	Tyr 380	Leu	Ala	Ala	Pro
Ala 385	Gly	Thr	Ile	Trp	Ala 390	Суз	Asn	Thr	Gly	Leu 395	Thr	Pro	Суз	Leu	Ser 400
Thr	Thr	Val	Leu	Asp 405	Leu	Thr	Thr	Asp	Tyr 410	Cys	Val	Leu	Val	Glu 415	Leu
Trp	Pro	Lys	Val 420	Thr	Tyr	His	Ser	Pro 425	Gly	Tyr	Val	Tyr	Gly 430	Gln	Phe
Glu	Glu	Lys 435	Thr	Lys	Tyr	Lys	Arg 440	Glu	Pro	Val	Ser	Leu 445	Thr	Leu	Ala
Leu	Leu 450	Leu	Gly	Gly	Leu	Thr 455	Met	Gly	Gly	Ile	Ala 460	Ala	Gly	Val	Gly
Thr 465	Gly	Thr	Thr	Ala	Leu 470	Val	Ala	Thr	Gln	Gln 475	Phe	Gln	Gln	Leu	Gln 480
Ala	Ala	Met	Gln	Asp 485	Asp	Leu	Lys	Glu	Val 490	Glu	Lys	Ser	Ile	Thr 495	Asn
Leu	Glu	Arg	Ser 500	Leu	Thr	Ser	Leu	Ser 505	Glu	Val	Val	Leu	Gln 510	Asn	Arg
Arg	Gly	Leu	Asp	Leu	Leu	Phe	Leu	Lys	Glu	Gly	Gly	Leu	Cys	Ala	Ala

520 525

515

```
Leu Lys Glu Glu Cys Cys Phe Tyr Ala Asp His Thr Gly Leu Val Arg
   530
                     535
Asp Ser Met Ala Lys Leu Arg Glu Arg Leu Ser Gln Arg Gln Lys Leu
545
               550
                                  555
Phe Glu Ser Gln Gln Gly Trp Phe Glu Gly Leu Phe Asn Lys Ser Pro
             565
                       570
Trp Phe Thr Thr Leu Ile Ser Thr Ile Met Gly Pro Leu Ile Ile Leu
                  585
          580
Leu Leu Ile Leu Leu Phe Gly Pro Cys Ile Leu Asn His Leu Val Gln
      595
                       600
Phe Ile Lys Asp Arg Val Ser Val Val Gln Ala Leu Val Leu Thr Gln
   610 615
                             620
Gln Tyr His Gln Leu Lys Thr Ile Glu Asp Cys Glu Ser Arg Glu
                630
625
                                    635
<210> 3
<211> 23
<212> DNA
<213> Artificial
<220>
<223> Primer
<400> 3
aacaatttca cacaggaaac agc
                                                               23
<210> 4
<211> 45
<212> DNA
<213> Artificial
<220>
<223> Primer
<400> 4
                                                               45
gtttgccccg gtcacactgt gccaacaggg tgtggagggc cgaga
<210> 5
<211> 93
```

<212> DNA

<213> Artificial

```
<220>
<223> Primer
<400> 5
cttaagcgag gaaacactcc tcagaatcag ggcccctgtt atgattcctc agcggtctcc
                                                                    60
                                                                     93
agtgacatca agggtgccac accggggggt cga
<210> 6
<211> 87
<212> DNA
<213> Artificial
<220>
<223> Primer
<400> 6
ggtaaaaggg ccagctggga cggccccaaa gtatggggac taagactgta ccgatccaca
gggatcgacc cggtgacccg gttctct
                                                                     87
<210> 7
<211> 54
<212> DNA
<213> Artificial
<220>
<223> Primer
<400> 7
                                                                    54
ctaatagtcc tgggaatctt aataagggca ggagtatcag tacaacatga cagc
<210> 8
<211> 87
<212> DNA
<213> Artificial
<220>
<223> Primer
<220>
<221> misc_feature
<222> (24)..(24)
<223> n is a, c, g, or t
<220>
<221> misc_feature
<222> (27)..(27)
<223> n is a, c, g, or t
<220>
<221> misc_feature
```

```
<222> (33)..(33)
<223> n is a, c, g, or t
<400> 8
ggtaaaaggg ccagctggga cgsnycnaaa gyntggggac taagactgta ccgatccaca
rgrayhgacc cggtgacccg gttctct
                                                                     87
<210> 9
<211> 87
<212> DNA
<213> Artificial
<220>
<223> Primer
<400> 9
ggtaaaaggg ccagctggga cgcctccaaa gcatggggac taagactgta ccgatccaca
                                                                     60
aggaccgacc cggtgacccg gttctct
                                                                     87
<210> 10
<211> 87
<212> DNA
<213> Artificial
<220>
<223> Primer
<400> 10
ggtaaaaggg ccagctggga cgcctccaaa gcatggggac taagactgta ccgatccaca
                                                                     60
aggatcgacc cggtgacccg gttctct
                                                                     87
<210> 11
<211> 87
<212> DNA
<213> Artificial
<220>
<223> Primer
<400> 11
ggtaaaaggg ccagctggga cgcctccaaa gcatggggac taagactgta ccgatccaca
                                                                     87
gggaccgacc cggtgacccg gttctct
<210> 12
<211> 87
<212> DNA
<213> Artificial
```

<223>	Primer					
<400>	12					
	aggg ccagctggga	cgcctccaaa	gcatggggac	taagactgta	ccgatccaca	60
gggatc	gacc cggtgacccg	gttctct				87
<210>	1.2					
<211>	13 22					
<212>	DNA					
	Artificial					
<220>						
<223>	Primer					
<400>	13					
gattaaq	gttg ggtaagccag	<b>a</b> a				22
.01.0						
<210>	14					
<211> <212>	21 DNA					
	Artificial					
1210						
<220>						
<223>	Primer					
<400>	14					
cacagt	gtga ccggggcaaa	С				21
·010>	15					
<210> <211>	15 22					
<211>	DNA					
<213>	Artificial					
1220						
<220>						
<223>	Primer					
<400>	15					
agggagt	gtt tcctcgctta	ag				22
<010°	1.6					
<210>	16					
<211> <212>	21 DNA					
	Artificial					
<220>						
<223>	Primer					
<400>	16					
gtccca	gctg gcccttttac	С				21

```
<211> 21
<212> DNA
<213> Artificial
<220>
<223> Primer
<400> 17
taagattccc aggactatta g
                                                                    21
<210> 18
<211> 26
<212> DNA
<213> Artificial
<220>
<223> Primer
<400> 18
                                                                    26
ctctccaagc tcacttacag gccctc
<210> 19
<211> 32
<212> DNA
<213> Artificial
<220>
<223> Primer
<400> 19
                                                                    32
tgcggccgcg tcgactggct aagccttatg aa
<210> 20
<211> 52
<212> DNA
<213> Artificial
<220>
<223> Spacer sequence
<400> 20
                                                                    52
aaacacgatt gccgcgtgcg gccgctaaca ctccggagct cgagccaata tg
<210> 21
<211> 18
<212> DNA
<213> Artificial
<220>
<223> Spacer sequence
<400> 21
```

18

aaacacgata ataccatg

```
<210> 22
<211> 17
<212> PRT
<213> MLV
<400> 22
Ala Ser Lys Ala Trp Gly Leu Arg Leu Tyr Arg Ser Thr Arg Thr Asp
                                 10
Pro
<210> 23
<211> 17
<212> PRT
<213> MLV
<400> 23
Gly Pro Lys Val Trp Gly Leu Arg Leu Tyr Arg Ser Thr Gly Ile Asp
              5
                                10
Pro
<210> 24
<211> 17
<212> PRT
<213> MLV
<400> 24
Gly Pro Lys Val Trp Gly Leu Arg Leu Tyr Arg Ser Thr Gly Thr Asp
    5
                     10
Pro
<210> 25
<211> 17
<212> PRT
<213> MLV
<400> 25
Gly Pro Lys Val Trp Gly Leu Arg Leu Tyr Gln Ser Thr Gly Ile Asp
```

10

15

1

```
Pro
```

<213> MLV

<400> 29

<210> 26 <211> 17 <212> PRT <213> MLV <400> 26 Gly Pro Lys Val Trp Gly Leu Arg Leu Tyr Arg Ser Thr Gly Thr Asp 10 Pro <210> 27 <211> 17 <212> PRT <213> MLV <400> 27 Gly Pro Lys Val Trp Gly Leu Arg Leu Tyr Arg Ser Thr Gly Thr Asp 10 Pro <210> 28 <211> 17 <212> PRT <213> MLV <400> 28 Gly Pro Lys Val Trp Gly Leu Arg Leu Tyr Arg Ser Thr Gly Thr Asp 10 Pro <210> 29 <211> 17 <212> PRT

```
Gly Pro Lys Val Trp Gly Leu Arg Leu Tyr Arg Ser Thr Gly Ile Asp
                             10
Pro
<210> 30
<211> 17
<212> PRT
<213> MLV
<400> 30
Gly Pro Lys Val Trp Gly Leu Arg Leu Tyr Arg Ser Thr Gly Thr Asp
                                10
Pro
<210> 31
<211> 17
<212> PRT
<213> MLV
<400> 31
Gly Pro Lys Val Trp Gly Leu Arg Leu Tyr Arg Ser Thr Gly Thr Asp
                                 10
Pro
<210> 32
<211> 17
<212> PRT
<213> MLV
<400> 32
Gly Pro Lys Val Trp Gly Leu Arg Leu Tyr Arg Pro Thr Gly Thr Asp
                                  10
Pro
<210> 33
```

<211> 17 <212> PRT <213> MLV <400> 33

Gly Pro Lys Val Trp Gly Leu Arg Leu Tyr Arg Ser Thr Gly Thr Asp 1 5 10 15

Pro

<210> 34

<211> 17

<212> PRT

<213> MLV

<400> 34

Gly Pro Lys Val Trp Gly Leu Arg Leu Tyr Gln Ser Thr Gly Ile Asp 1 5 10 15

Pro

<210> 35

<211> 17

<212> PRT

<213> MLV

<400> 35

Gly Pro Lys Val Trp Gly Leu Arg Leu Tyr Arg Ser Thr Gly Ile Asp 1 5 10 15

Pro

<210> 36

<211> 17

<212> PRT

<213> MLV

<400> 36

Gly Pro Lys Val Trp Gly Leu Arg Leu Tyr Arg Ser Thr Gly Ile Asp 1 5 10 15

Pro

```
<211> 17
<212> PRT
<213> MLV
<400> 37
Gly Pro Lys Val Trp Gly Leu Arg Leu Tyr Arg Ser Thr Gly Thr Asp
    5
                     10
Pro
<210> 38
<211> 17
<212> PRT
<213> MLV
<400> 38
Gly Pro Lys Val Trp Gly Leu Arg Leu Tyr Arg Ser Thr Gly Thr Asp
  5
                  10
Pro
<210> 39
<211> 17
<212> PRT
<213> MLV
<400> 39
Gly Pro Lys Val Trp Gly Leu Arg Leu Tyr Arg Ser Thr Gly Thr Asp
                  10
 5
Pro
<210> 40
<211> 16
<212> PRT
<213> MLV
<400> 40
Thr Gly His Trp Trp Gly Leu Arg Leu Tyr Val Ser Gly His Asp Pro
                     10
<210> 41
```

<211> 16

```
<212> PRT
<213> MLV
<400> 41
Ile Gly His Tyr Trp Gly Leu Arg Leu Tyr Val Ser Gly Gln Asp Pro
                           10
<210> 42
<211> 16
<212> PRT
<213> MLV
<400> 42
Thr Gly His Tyr Trp Gly Leu Arg Leu Tyr Val Ser Gly Gln Asp Pro
    5
                       10
<210> 43
<211> 16
<212> PRT
<213> MLV
<400> 43
Thr Gly His Trp Trp Gly Leu Arg Leu Tyr Val Ser Gly His Asp Pro
                             10
<210> 44
<211> 16
<212> PRT
<213> MLV
<400> 44
Thr Gly His Tyr Trp Gly Leu Arg Leu Tyr Val Ser Gly Arg Asp Pro
                          10
<210> 45
<211> 16
<212> PRT
<213> MLV
<400> 45
Gly Pro Lys Ser Trp Gly Leu Arg Leu Tyr Arg Thr Gly Thr Asp Pro
<210> 46
<211> 16
<212> PRT
```

<213> MLV

<400> 46

Gly Pro Lys Ser Trp Gly Leu Arg Leu Tyr Arg Thr Gly Thr Asp Pro 1 5 10 15

<210> 47

<211> 17

<212> PRT

<213> MLV

<400> 47

Ala Pro Lys Val Trp Gly Leu Arg Leu Tyr Arg Ser Thr Gly Ala Asp 1 5 10 15

Pro

<21